OUTGOING LTR NO

90 RF 6446

DIST		
ALLHOFF F.H.		
BRANCH D.B.		
BREEN J.H.		
BRETZKE J.C.		
BURLINGAME A.H.	X	X
CROUCHER D.W.		
DAVIS J.G.		
EVERED J.E.	X	X
FERRERA D.W.		
FERRIS L.R.		
FRANCIS G.E.		
GOODWIN R.		
HEALY T.J.		
KERSH J.M.	X	X
KIRBY W.A.		
MAJESTIC J.R.		
MELLEN J.B.		
MORGAN R.V.	X	X
PARNELL R.F.		
POTTER G.L.	X	X
RHOADES J.L.	X	X
SAFFELL B.F.		
SANFORD T.H.		
SHANNON W.M.		
VAN LEUVEN D.B.		
WARNER B.P.	X	X
YOUNG E.R.		
Schubert, A.L.	X	X
Ebrich, P.W.	X	X
Ticknor, K.W.	X	X
BAKER F.B.		
BETCHER D.H.		
CARNIVAL G.J.		
FERRIER D.R.		
GILLISON W.R.		
HALBEISEN L.P.		
HARMAN L.K.		
HOFFMAN R.B.		
KLAMMAN R.L.		
KREIG D.M.		
LOUDENBERG G.E.		
NAIMON E.R.		
RICHARDELLA R.F.	X	X
TURNER H.I.		
VELASQUEZ R.N.		
WILSON J.M.		
SMITH, T.A.	X	X
PICKEREL, G.A.	X	X
CORRES CONTROL	X	X
RECMTS MONT		
ERWM TRACKING	X	X
SHEPHERD, D.A.	X	X
ROBERTS, J.D.	X	X

CLASSIFICATION		
UCNI		
UNCLASSIFIED	X	X
CONFIDENTIAL		
SECRET		

AUTHORIZED CLASSIFIER SIGNATURE

R S Baum

10/18/90

DATE

IN REPLY TO LTR NO.

LBE, DAS, RVM, GAP, JAP

LTR APPROVALS

ALS, GLP, PWE

ORIG & TYPIST INITIALS

KWT/PLF

RF-46469 (Rev 7/90)

EG&G ROCKY FLATS

000045378

EG&G ROCKY FLATS, INC
ROCKY FLATS PLANT, P O BOX 464 GOLDEN COLORADO 80402-0464 • (303) 966-7000

October 19, 1990

90-RF-6446

Robert M Nelson, Jr
Manager
DOE, RFO

Attn J Kiefer

EVAPORATION ENHANCEMENT FOR THE SOLAR EVAPORATION PONDS

Enclosed is a draft letter with two attachments to the Colorado Department of Health (CDH) which requests a change to interim status and provides information requested by CDH

Specifically, this letter requests that CDH approve use of a heater and soaker pipe system in the 207A and 207B Solar Evaporation Ponds to enhance evaporation of water in those ponds

In a telephone conversation with J Kiefer (RFO) and A Schubert (EG&G) on June 9, 1990, Dr F Dowsett (CDH) stated that use of the heater and soaker pipe system would not require submittal of a Part A Permit Application Dr Dowsett further stated that CDH required only a letter requesting a change to interim status that includes engineering details on the installation and operational procedures for the system CDH approval of this change is necessary to remove the liquids remaining in the ponds by the October 1991 date agreed to in the Agreement in Principle between U S Department of Energy and the State of Colorado

If you have any questions or require additional information, please contact Allen Schubert at extension 5251 or Kirk Ticknor at extension 6344 Additionally, please contact us if you wish us to deliver this document to CDH for you

J M Kersh, Associate General Manager
Environmental Restoration & Waste Management

KWT plf

Orig and 1 cc R M Nelson, Jr

Enclosure
As Stated

DOCUMENT CLASSIFICATION
REVIEW WAIVER PER
CLASSIFICATION OFFICE

DRAFT DRAFT DRAFT

Dr Frederick R Dowsett, Unit Leader
Monitoring and Enforcement
Hazardous Materials and Waste Management Division
Colorado Department of Health
4210 East 11th Avenue
Denver, Colorado 80220

Dear Dr Dowsett

The Agreement in Principle between the U S Department of Energy and the State of Colorado dated June 28, 1989, requires cleanup of the Solar Evaporation Ponds by October 1991 However, the current evaporation rate of water in those ponds will not support the cleanup of the ponds by that date

In order to meet the October 1991 date for cleanup of the solar ponds, various techniques are being considered to enhance evaporation of the water in the solar ponds One technique is the use of a heater and soaker pipe system in the 207A and 207B Solar Evaporation Ponds to enhance evaporation In each pond, water will be pumped through a preheater and then through a pipe that will run around the top perimeter of the pond s berm The heated water will exit small holes in the pipe to keep the pond's perimeter asphalt wetted The increased temperature and surface area of the water will enhance the evaporation rate in the ponds

In a telephone conversation on June 29, 1990, you stated that this technique would not require submittal of a Part A Permit Application You further stated that use of the heater and soaker pipe system would require a letter to the Colorado Department of Health (CDH) requesting a change to interim status that includes engineering details on the installation and operational procedures for the system

The enclosures to this letter provide the information you requested on June 29, 1990 Specifically, Enclosure 1 provides the engineering details on installation, and Enclosure 2 provides the operating procedure for the heater and soaker pipe system

This letter requests that CDH approve the change to interim status for use of the heater and soaker pipe system to enhance evaporation in the solar ponds This request is being made in accordance with the requirements of the Colorado Hazardous Waste Regulations, 6 CCR 1007-3, Section 100 20

If you have any questions, please call Jim Kiefer of my staff at 966-5924

Enclosures
As Stated

cc
J M Kersh, EG&G Rocky Flats, Inc
A. L. Schubert, EG&G Rocky Flats, Inc

TECHNICAL DATA

Heater and Soaker Pipe System
(see attached conceptual drawing)

1 Flow Rates

   a 207A pond Approximately 200 gallons per minute through the heater
   b 207B ponds Approximately 200 gallons per minute through the heater with that flow being distributed approximately even between the north, south and center ponds

2 Pumps

   a. Submersible type
   b Approximately two to five horsepower for each pump

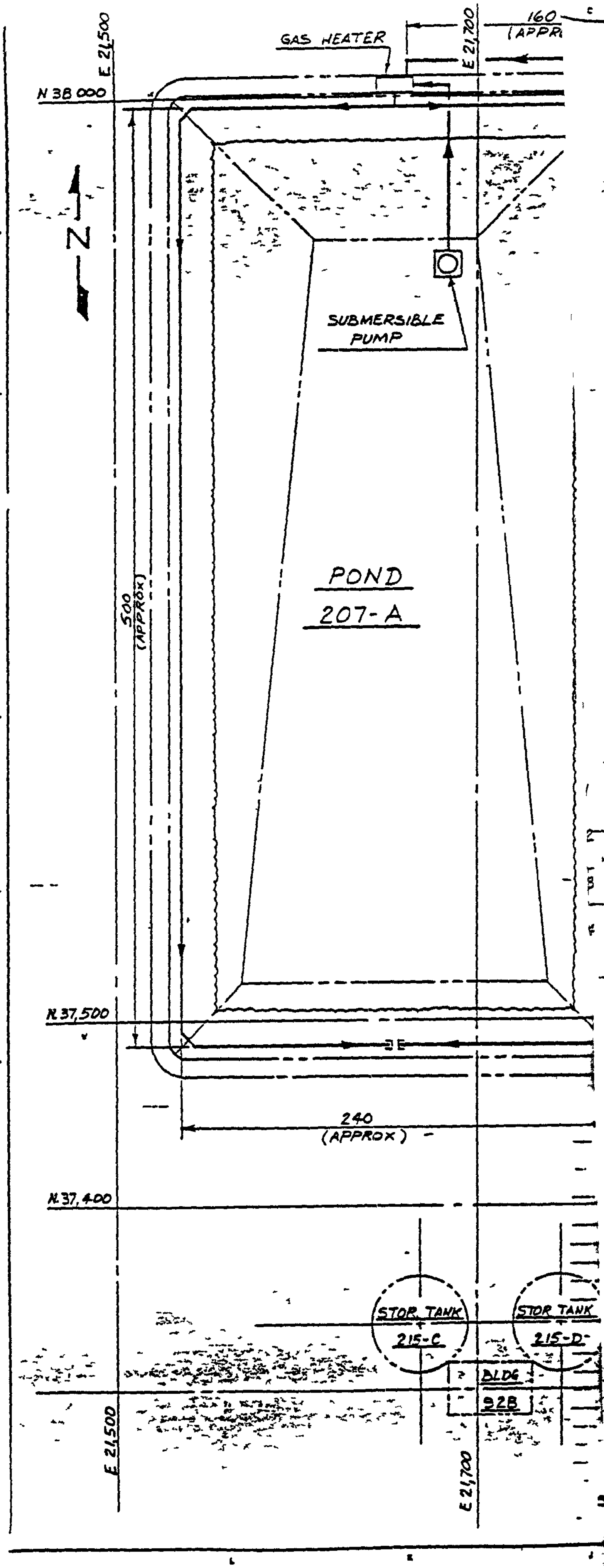
3 Heat-trace system An electrical heating strip will be attached to the entire length of each soaker pipe to help maintain the temperature of the water in the pipes

4 Heater The heaters will be specified to provide a temperature rise of approximately 40 degrees F for a flow rate of approximately 200 gallons per minute (This preliminary data is based on a Teledyne Laars heater, model number 5000-1P It is a gas-fired, single-pass heat exchanger which weighs approximately 3000 pounds and has approximate physical dimensions of ten feet long by four feet wide by five feet high)

5 Hose connecting pumps to heaters Reinforced rubber hose, minimum rating of 150 pounds per square inch

6 Soaker Pipe PVC or CPVC pipe

7 Tie-down method for Soaker Pipe The soaker pipes will be held in place by tie-downs that will be attached at points beyond the ponds' berms



PART	QUAN.	DESCRIPTION	MATERIAL

GENERAL NOTES

1. ALL DISCHARGE WATER LINES INSIDE OF POND PERIMETER ARE PERFORATED
2. HEAT TRACE ALL WATER LINES WITH STRAIGHT HEAT TAPE ON OPPOSITE SIDE OF PERFORATIONS
3. INSULATE ALL WATER LINES AND PROVIDE OPENING IN INSULATION FOR PERFORATIONS
4. LOCATION OF WATER LINES, GAS LINES, HEATERS AND PUMPS ARE APPROXIMATE

CONCEPTUAL

A	ORIGINAL ISSUE CONCEPTUAL DESIGN	10-18-90			402207
ISSUE	DESCRIPTION	DATE	APP	DOE CLASS	JOB NO

TOLERANCES		BY	DATE
FRACT. ±	DESIGNED	LOPEZ	10-15-90
ANGLE ±	DRAWN	LOPEZ	10-15-90
DEC. ±	CHECKED	[illegible]	10-18-90
UNLESS NOTED OTHERWISE	APPROVED	[illegible]	10-18-90
REMOVE BURRS AND SHARP EDGES			
NEXT ASSEMBLY			
	SUBMITTED		
	APPROVED		
	APPROVED DOE		

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS AREA OFFICE — GOLDEN COLORADO

Rocky Flats Plant
GOLDEN, COLORADO

CONCEPTUAL
SOLAR POND CLEANUP/AIP
WATER EVAPORATION SYSTEM

SIZE	DRAWING NUMBER	ISSUE	SHEET
D	39316-C02	A	

HIGH-LEVEL PROCEDURE

Heater and Soaker Pipe System

1 1 STARTUP

a. Before starting the heater and soaker pipe system, walk the perimeter of the pond to visually inspect the pipe and verify the integrity of the system Also, inspect the heat exchangers and verify no visual discrepancies

b To start a circulation pump, turn the pump's power disconnect switch to the "ON" position, then turn the pump's control switch to the "ON" position Watch the soaker pipes as water is being pumped to verify water is being discharged down the berms Look for any breaks and observe the discharge to ensure that no liquid is being sprayed outside the bermed area of the pond If any problem with the soaker flow is detected, shut off the pump immediately and notify the supervisor

c To energize a heat-trace system for a pipe, turn the heat-trace system's power disconnect switch to the "ON" position, then turn the heat-trace system's control switch to the "ON" position

d. To start a gas heater, open the gas isolation valve that supplies gas to the heater, turn the gas heater's power disconnect switch to the "ON" position, then start the gas heater in accordance with the vendor's instructions Adjust the temperature control to 120 degrees F Set the high temperature limit to 150 degrees F

e Enter the time of the day that the heater and soaker system was started in the Heater and Soaker Pipe Log Book

1 2 NORMAL OPERATION Every four hours during operation, visually inspect the heater and soaker pipe system to ensure the system is operating and no liquid is being sprayed outside the bermed area of the pond Enter the following information in the Heater and Soaker Pipe Log Book

a. The time and results of the visual inspection
b The water outlet temperature from the gas heaters

1 3 SHUTDOWN

a. To shutdown a gas heater, turn off the gas heater in accordance with the vendor's instructions, turn the gas heater's power disconnect switch to "OFF", then shut the gas isolation valve that supplies gas to the heater

b To secure a heat-trace system, turn its control switch to the "OFF" position, then turn its power disconnect switch to the "OFF" position

c To secure a circulating pump, turn its control switch to the "OFF" position, then turn its power disconnect switch to the "OFF" position

d. Enter the time of the day that the heater and soaker system was shutdown in the Heater and Soaker Pipe Log Book